

WHAT IS CLAIMED IS:

1. A light wave distance-measuring system, comprising a projection optical system having an optical axis of outgoing light and for projecting a measuring light, and a photodetection optical system having an optical axis of a returning light and for receiving a reflection light, wherein said photodetection optical system comprises a light receiving lens for receiving and for converging the reflection light, a light receiving surface where the reflection light enters, and a ring-like perforated multi-focal optical member arranged between said light receiving surface and said light receiving lens and for converging the light to said light receiving surface.

2. A light wave distance-measuring system according to claim 1, wherein said light receiving lens is a perforated lens, and an aperture is positioned on an optical axis of the outgoing light.

3. A light wave distance-measuring system according to claim 1, wherein said perforated multi-focal optical member is a toric lens having at least two focal points.

4. A light wave distance-measuring system according to claim 1, wherein said perforated multi-focal optical member is an aspherical lens.

5. A light wave distance-measuring system according to claim 1, wherein said perforated multi-focal optical member has a cross-section in form of a cone prism.

6. A light wave distance-measuring system according to claim 1, wherein said perforated multi-focal optical member is a cone prism having at least two or more types of vertical

angles.

7. A light wave distance-measuring system according to claim 5, wherein said cone prism has a vertical angle continuously changed.

8. A light wave distance-measuring system according to claim 1, wherein an optical axis of the outgoing light is decentered from a center of said light receiving lens.